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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/270,673	03/16/1999	TAKAHISA UEDA		2804

23364 7590 03/07/2005

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EXAMINER	
MIGGINS, MICHAEL C	
ART UNIT	**PAPER NUMBER**
1772	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/270,673	UEDA ET AL.4	
	Examiner	Art Unit	
	Michael C. Miggins	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

WITHDRAWN REJECTIONS

1. The 35 USC 112 2nd paragraph rejections set forth in the non-final rejection of 9/10/04, pages 2-3, paragraphs 4-5 has been withdrawn. All of the 35 USC 103(a) rejections set forth in the non-final rejection of 9/10/04, pages 3-8, paragraphs 6-12 have been withdrawn.

REJECTIONS REPEATED

2. There are no rejections repeated.

NEW REJECTIONS

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 22-23, 26-29 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braus et al. (U.S. Patent No. 4,847,135) in view of Wegner et al. (U.S. Patent No. 4,540,630) and Runton et al. (U.S. Patent No. 3,000,076).

Braus et al. teach an annular sliding (since guide bushings and shells are taught, see column 2, lines 7-8 and column 2, lines 5-51) fluoroplastics member having a composite structure which mainly consists of fluorine plastics (PTFE) (column 3, lines

48-58) and short fibers (aramid) (column 4, lines 3-15) (applies to instant claims 22 and 27).

Braus et al. disclose applicant's invention substantially as claimed. However, Braus et al. fail to disclose a sliding member wherein 20 or 50 or more weight percent of short fibers by weight of a total amount of said short fibers are oriented in a direction along which a burden of a load is large or oriented in an axial direction and wherein the member contains a lubricant.

Wegner et al. disclose a sliding member wherein 20 or 50 or more weight percent of short fibers by weight of a total amount of said short fibers are oriented in a direction along which a burden of a load is large (since the short fibers, column 4, lines 61-68, are all oriented in the longitudinal direction or transverse to the longitudinal direction, column 5, lines 18-27, column 5, lines 45-50 and applicant claims an axial direction) or oriented in an axial direction (column 5, lines 45-50) and wherein the member contains a lubricant (column 3, lines 19-26) for the purpose of providing high resistance to fatigue, wear resistance and bonding stability (column 2, lines 1-16) (applies to instant claims 22-23, 26-27 and 33).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a sliding member wherein 20 or 50 or more weight percent of short fibers by weight of a total amount of said short fibers are oriented in a direction along which a burden of a load is large or oriented in an axial direction and wherein the member contains a lubricant in the annular sliding member of

Braus et al. in order to provide high resistance to fatigue, wear resistance and bonding stability as taught or suggested by Wegner et al..

Braus et al. disclose applicant's invention substantially as claimed. However, Braus et al. fail to disclose wherein the composite structure is a structure in which a number of fluoride plastics layers containing fibers are stacked in a radial direction, and each of said stacked layers has a wavy sectional shape which undulates in an axial direction, wherein overlapping faces of said layers are integrally coupled to one another.

Runton et al. disclose a composite structure which is a structure in.which a number of fluoride plastics layers containing fibers are stacked in a radial direction, and each of said stacked layers has a wavy sectional shape which undulates in an axial direction, wherein overlapping faces of said layers are integrally coupled to one another (column 2, lines 1-71 and Figs. 1-6) (applies to instant claims 28-29) for the purpose of providing improved load strength.

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a composite structure which is a structure in which a number of fluoride plastics layers containing fibers are stacked in a radial direction, and each of said stacked layers has a wavy sectional shape which undulates in an axial direction, wherein overlapping faces of said layers are integrally coupled to one another in the annular sliding member of Braus et al. in order to provide improved load strength as taught or suggested by Runton et al..

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braus et al. (U.S. Patent No. 4,847,135) in view of Wegner et al. (U.S. Patent No. 4,540,630) and Runton et al. (U.S. Patent No. 3,000,076), as applied to claims 22-23, 26-29 and 33 above, and further in view of Hartel et al. (U.S. Patent No. 4,942,075).

Braus et al. disclose applicant's invention substantially as claimed. However, Braus et al. fail to disclose that the fibers are oriented in a circumferential direction.

Hartel et al. disclose fibers oriented in a circumferential direction in an annular body (column 3, lines 22-41 and Fig. 1) for the purpose of providing increased load strength (column 2, lines 17-63).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided wherein the fibers are oriented in a circumferential direction in the annular sliding member of Braus et al. in order to provide increased load strength as taught or suggested by Hartel et al..

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braus et al. (U.S. Patent No. 4,847,135) in view of Wegner et al. (U.S. Patent No. 4,540,630) and Runton et al. (U.S. Patent No. 3,000,076), as applied to claims 22-23, 26-29 and 33 above, and further in view of Stiff et al. (U.S. Patent No. 3,675,980).

Braus et al. disclose applicant's invention substantially as claimed. However, Braus et al. fail disclose wherein the fibers are oriented in a spiral direction.

Stiff et al. disclose an annular member wherein the fibers are oriented in a spiral direction (column 5, lines 1-65) for the purpose of providing improved load strength.

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided wherein the fibers are oriented in a spiral direction in the annular sliding member of Braus et al. in order to provide improved load strength as taught or suggested by Stiff et al..

7. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braus et al. (U.S. Patent No. 4,847,135) in view of Wegner et al. (U.S. Patent No. 4,540,630) and Runton et al. (U.S. Patent No. 3,000,076), as applied to claims 22-23, 26-29 and 33 above, and further in view of Board, Jr. (U.S. Patent No. 3,950,599).

Braus et al. disclose applicant's invention substantially as claimed. However, Braus et al. fail to disclose an annular member wheren plural filaments (aramid) are stitched to said composite structure.

Board, Jr. disclose an annular member wheren plural filaments (aramid) are stitched to said composite structure (column 6, lines 33-68 and Figs. 1-3) (applies to instant claims 30-31) for the purpose of providing improved load strength.

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided an annular member wheren plural filaments (aramid) are stitched to said composite structure in the annular sliding member of Braus et al. in order to provide improved load strength as taught or suggested by Board, Jr..

8. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braus et al. (U.S. Patent No. 4,847,135) in view of Wegner et al. (U.S. Patent No. 4,540,630) and Runton et al. (U.S. Patent No. 3,000,076), as applied to claims 22-23, 26-29 and 33 above, and further in view of Sumiyoshi et al. (U.S. Patent No. 4,559,248).

Braus et al. disclose applicant's invention substantially as claimed. However, Braus et al. fail to disclose an annular member wherein at least one surface of said annular sliding fluoroplastics member is covered with an expanded graphite sheet.

Sumiyoshi et al. disclose an annular member wherein at least one surface of said annular sliding fluoroplastics member is covered with an expanded graphite sheet (column 3, lines 1-68, column 7, lines 1-68 and Figs. 1-4) for the purpose of providing improved heat resistance.

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided an annular member wherein at least one surface of said annular sliding fluoroplastics member is covered with an expanded graphite sheet in the annular sliding member of Braus et al. in order to provide improved heat resistance as taught or suggested by Sumiyoshi et al..

Response to Arguments

9. Applicant's arguments of 12/10/04 have been carefully considered but are deemed unpersuasive.

Applicant's arguments with regard to the 35 USC 112 2nd paragraph rejection are moot since the rejections have been withdrawn.

Applicant has argued that neither Braus nor Wegner teach orienting the short fibers so that 20 or more wt.% are oriented in a direction along which the magnitude of a load is large. However, applicant, in the specification, has listed three directions in which the fibers may be oriented in order to withstand large loading. The three directions are axial, radial and spiral (see instant specification page 8 in its entirety). Wegner teaches short fibers in which all of the short fibers are more or less oriented in an axial direction (column 5, lines 40-65). Since Wegner teaches an axial orientation the reference reads on the limitations since the axial direction is one of the directions specifically disclosed by applicant to which the magnitude of a load is large (see instant specification page 8). Furthermore, Wegner specifically discloses that the composite material containing the oriented fibers were able to withstand high loading (column 5, lines 40-65).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Miggins whose telephone number is (571) 272-1494. The examiner can normally be reached on Monday-Friday; 1:30-10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pyon Harold can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael C. Miggins
Examiner
Art Unit 1772

MCM
March 3, 2005